



DEPARTMENT OF THE NAVY
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20350-1000

SECNAVINST 3400.3
ASN(S&L) I&F
14 JUL 1989

SECNAV INSTRUCTION 3400.3

From: Secretary of the Navy

Subj: SAFETY PROGRAM FOR CHEMICAL AGENTS AND WEAPONS SYSTEMS

Ref: (a) DOD Instruction 4120.13, "Safety Program for Chemical Agents and Weapons Systems," 9 Jul 87 (NOTAL)
(b) SECNAV Instruction 5100.10F, "Implementation of Department of the Navy Safety and Occupational Health Policy," 29 Jun 87
(c) SECNAV Instruction 3400.2, "Design and Acquisition of Nuclear, Biological and Chemical (NBC) Contamination-Survivable Systems," 4 May 88
(d) DOD Directive 5160.5, "Responsibilities for Research, Development, and Acquisition of Chemical Weapons and Chemical and Biological Defense," 1 May 85 (NOTAL)
(e) DOD 6055.9-STD, "DoD Ammunition and Explosives Safety Standards," July 84 (NOTAL)
(f) DOD Instruction 5000.36, "System Safety Engineering and Management," 14 Apr 86 (NOTAL)

Encl: (1) SYSTEM SAFETY STUDY MILESTONE GUIDE

1. Purpose. To update Department of Defense (DOD) policies and procedures and assign responsibilities for minimizing the potential and severity of DoD chemical agent accidents through the application of safety management and system safety principles.

2. Policy. Program managers and offices responsible for any phase in the life cycle of a chemical weapon system shall establish and maintain chemical agent safety programs and procedures as an element of their overall safety and occupational health program under reference (b).

3. Objective

a. To establish and maintain effective and centrally directed safety programs to protect:

(1) Navy and Marine Corps personnel from accidental injury or death during chemical weapon research, development, testing, production, transportation, storage, deployment and disposal.

(2) The public and the environment from adverse effects.

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b. Chemical weapon systems shall be given unbiased and periodic system safety reviews.

4. Applicability and Scope. These programs:

a. Apply to chemical agents and associated weapon systems, including binary chemical agent weapon systems. All such items are hereafter referred to collectively as "chemical weapon systems."

b. Apply to chemical weapon systems research and development, production and demilitarization facilities.

c. Do not apply to riot control or smoke agents, herbicides or flame generating systems.

d. Apply to Navy and Marine Corps program managers and offices responsible for any phase in the life cycle of a chemical weapon system.

5. Action. Responsibility for ensuring the Department of the Navy's (DON) compliance with references (a) through (c) rests with the Secretary of the Navy (SECNAV).

a. The Assistant Secretary of the Navy (Shipbuilding and Logistics). The Assistant Secretary of the Navy (Shipbuilding and Logistics) is responsible, per reference (b), for the DON Safety and Occupational Health Program of which chemical agent safety policy is an element.

b. The Assistant Secretary of the Navy (Research, Engineering and Systems). The Assistant Secretary of the Navy (Research, Engineering and Systems) is responsible for the review of new systems involving chemical agents to ensure the enclosure (1) System Safety Guide is applied and milestone reviews are conducted.

c. Chief of Naval Operations (CNO). The Chief of Naval Operations in support of the SECNAV's programs and in coordination with the Commandant of the Marine Corps with respect to matters of mutual concern shall establish and maintain chemical agent safety programs per this instruction. These programs shall:

(1) Evaluate the safety of chemical weapon systems, equipment, facilities, and the adequacy of safety rules and/or procedures and training.

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(2) Systematically eliminate or control hazards in chemical weapon systems, equipment, and facilities primarily through engineering design and controls and secondarily through procedural controls.

(3) Educate personnel on the risks associated with chemical agent operations.

(4) Monitor the health and work environment of occupationally exposed personnel.

(5) Obtain or develop per reference (d) protective clothing and equipment, monitoring and/or detection equipment, and decontamination capability necessary to meet the occupational exposure standards under reference (e).

(6) Implement DoD Explosives Safety Board standards in reference (e).

(7) Establish contingency planning to include chemical accident and/or incident (CAI) response and assistance, CAI reporting and investigation per reference (e) and public affairs planning.

(8) Include chemical weapon systems, chemical agent protective clothing and equipment, monitoring and/or detection equipment, and other equipment and facilities in their system safety program required by reference (f).

(9) Ensure that unbiased system safety reviews of their chemical weapon systems are accomplished.

(10) Establish a system safety review process.

(a) For chemical weapon systems being developed, a system safety study shall be conducted during each material acquisition phase and shall be available 90 days before each milestone review and scheduled deployment (see enclosure (1)). These studies shall assess the safety of the weapon system and its compliance with safety standards. Study findings and/or recommendations shall be used to assist decision-makers on whether or not to continue system development and what future development and system changes are required to meet established chemical agent safety standards, consistent with operational requirements. Study recommendations should also include: (1) what information is needed for any follow-on study; (2) desirable system changes to optimize safety characteristics; (3) what safety issues should be briefed at milestone reviews; and (4)

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what safety rules are needed to minimize hazards that might not be eliminated by design.

(b) Following operational experience with chemical weapon systems currently being developed, and for chemical weapon systems currently accepted for service use (for which no previous system safety studies exist), a one-time Special Study shall be conducted. In either case, these studies shall evaluate the safety of the weapon systems during all remaining phases of their life cycles. The results shall be quantitative in nature, and shall include conclusions for the overall safety of the systems and specific recommendations that address all identified problem areas. They also shall document the safety lessons learned for application to future weapon systems development.

(c) Additional Special Studies should be conducted for all deployed chemical weapon systems, as required, to evaluate the impact on safety of changes in system design; production, maintenance, transportation, storage, use or disposal methods; or other parameters.

(d) On completion, chemical weapon system safety studies and updates shall be provided to the Assistant Secretary of the Navy (Shipbuilding and Logistics) and the Assistant Secretary of the Navy (Research, Engineering and Systems).

(11) Formally document in subsequent system safety studies each management decision to accept the risks associated with an identified hazard.

d. Commandant of the Marine Corps. The Commandant of the Marine Corps in support of the SECNAV's programs, and in coordination with the CNO with respect to matters of mutual concern, shall, for areas within the Commandant's responsibilities, perform the same duties assigned to the CNO in paragraph 5c.

6. Records Disposition. For each class of record generated per this instruction, apply the appropriate records disposition standard of SECNAVINST 5212.5B and SECNAVINST 5212.5C.



EVERETT PYATT
ASSISTANT SECRETARY OF THE NAVY
(SHIPBUILDING AND LOGISTICS)

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SYSTEM SAFETY STUDY MILESTONE GUIDETiming of System Safety Studies for Chemical Weapon Systems
Relative to Life Cycle Milestone ReviewsCONCEPTUAL STUDY

Conducted during the first stages of concept exploration and throughout research and development. Safety in all future phases of the life cycle should be considered during this and subsequent studies. Completed at least 90 days before Milestone I.

DEMONSTRATION AND VALIDATION STUDY

Builds on Conceptual Study, preliminary design and engineering, trade-off proposals, etc. Completed at least 90 days before Milestone II.

FULL-SCALE DEVELOPMENT STUDY

Builds on previous studies and safety data from advanced engineering, fabrication, and testing. Completed at least 90 days before Milestone III and system is accepted for service use.

PRODUCTION AND DEPLOYMENT STUDY

Builds on previous studies, results of production testing and evaluation, impact of preplanned product improvements, etc. Completed at least 90 days before scheduled deployment.

SPECIAL STUDY

Conducted after operational experience with chemical weapon systems and on current systems to determine whether system is safe for all aspects of remaining life cycle. Documents lessons learned for application to future systems development.

and

Conducted on all chemical weapon systems, as required to evaluate impact on safety changes in system design; production, maintenance, transportation, storage, use, or disposal methods; or other parameters.

Enclosure (1)